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### **3. REMARKS / DISCUSSION OF ISSUES**

Claims 1-54 are pending in the application. Claims 1, 19 and 37 are in independent form.

Unless indicated otherwise, claims are amended for non-statutory reasons: to correct one or more informalities, remove figure label number(s), and/or to replace European-style claim phraseology with American-style claim language.

#### **II. Rejections under 35 U.S.C. § 103**

1. Claims 1-8, 10-14 and 16-18 are rejected under 35 U.S.C. § 102(e) in view of *Daudelin* (U.S. Patent 6,972,807). For at least the reasons set forth herein, it is respectfully submitted that this rejection is improper and should be withdrawn.

##### **a. Neither *Daudelin* nor *Bi, et al.* disclose first and second signal strength thresholds as claimed**

Claim 1 is drawn to a method of managing fingers for multipath signals in a wireless communication device. The method includes, inter alia:

*"...enabling said finger assignment for a combine operation if said signal-strength for said finger assignment satiates a first signal-strength threshold; and preventing said finger assignment from being deassigned if said signal-strength of said finger assignment satiates a second threshold, said second signal-strength threshold being less than said first signal-strength threshold."*

Claims 19 and 37 include similar features.

Fig. 3 of the filed application shows a graph of an exemplary multipath signal, to which a time threshold and a SNR threshold is applied is shown, in accordance with an embodiment. Graph 300 has an abscissa of time 322 and an ordinate of SNR 320, which can also be illustrative of signal power, assuming a constant noise level. Fourth multipath signal 106d is shown as an exemplary signal charted over a period of time. A first SNR threshold, multipath acceptance threshold (T\_ACCEPT)

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326, represents the threshold for which the multipath management will consider a multipath ACCEPT operation for the multipath signal in question. In conjunction with the T\_ACCEPT 326 threshold, the present embodiment also shows the number threshold of measurement for acceptance (N\_ACCEPT) 322 that represents a time threshold over which the signal-to-noise ratio of the signal must be maintained above T\_ACCEPT wherein the signal strength of the multipath signal is above T\_ACCEPT for N\_ACCEPT consecutive times of searcher measurements. As shown in Figure 3, fourth multipath signal 106d fails to satiate both these thresholds in time span 3 343. However, fourth multipath signal 106d does satiate both of these thresholds as shown in time span 1 341. While the present embodiment utilizes both a SNR threshold and a time threshold to consider a multipath ACCEPT operation for the multipath signal, the embodiment is well-suited to using only a SNR threshold.

Figure 3 also shows a second SNR threshold, multipath rejection threshold (T\_REJECT) 328, which represents the threshold for which the multipath management will consider a REJECT operation for the multipath signal in question. In conjunction with the T\_REJECT 328 threshold, the present embodiment also shows the number threshold of measurement for rejection (N\_REJECT) threshold 324 that represents a time threshold over which the strength of the signal must be below T\_REJECT for the multipath REJECT operation to proceed.

#### **i. Daudelin**

By contrast, at the portion relied upon in the present rejection, the reference to *Daudelin* discloses a finger assignor 404 that analyzes a composite signal and searches for strong constituent signals that are appropriate to assign to a finger. The assignor 404 also compares the signal quality of each constituent signal to a re-assignment threshold in parallel. The reference also discloses a finger de-assignor 410 that analyzes the assigned signals and determines whether any are spurious. If the assigned constituent signal(s) is spurious, the de-assignor orders the rake receiver 407 to de-assign the signal from the associated finger. This portion of the reference notes that a spurious signal may be determined by having the signal

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quality fall below a de-assignment threshold, for example.

Plainly, the reference to *Daudelin* discloses de-assignment of constituent signals based on a de-assignment threshold. However, the reference does not disclose preventing the finger assignment from being **deassigned if said signal-strength of said finger assignment satiates a second threshold, said second signal-strength threshold being less than said first signal-strength threshold** as is specifically recited in claims 1, 19 and 37. (Kindly refer to column 6, line 21 through column 7, line 50 of *Daudelin* for support for the above assertions.)

ii. *Bi, et al.*

The Examiner turns to *Bi, et al.* in an attempt to cure the deficiency of *Daudelin*, noting that *Daudelin* fails to disclose preventing the finger assignment from being deassigned if the signal-strength of the finger assignment satiates a second threshold, the second signal-strength threshold being less than the first signal-strength threshold.

The Examiner relies on column 9, lines 60-65, of *Bi, et al.* for the teaching of the feature of "...preventing the finger assignment from being de-assigned if the signal-strength of the finger assignment satiates a second threshold..." The noted portion of *Bi, et al.* discloses that a controller 1105 observes the output of comparator 1104 and deassigns the monitored finger immediately upon observing the percent-below-threshold criterion has failed.

Applicants respectfully submit that the noted portion of *Bi, et al.* does disclose a deassignment method, but does not disclose the claimed preventing the finger assignment from being de-assigned, let alone preventing this event if the signal-strength of the finger assignment satiates a second threshold.

The reference to *Bi, et al.* relates to three techniques used to de-assign spurious signals more quickly and to avoid de-assigning genuine signals more slowly. The reference discloses three methods to accomplish this objective. One technique uses an initial threshold P1, which is relied on for the teaching of the second threshold in claim 1. However, the technique, the Temporal Percent-Below-

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Threshold Technique, deassigns a signal from a finger when a measure of signal quality spends more than a percentage,  $P$ , of the time below a threshold,  $R$ , during a time interval,  $\Delta t$ , while changing the percentage,  $P$ , or time,  $\Delta t$ , or both, as a function of time. It is believed that the term,  $P1$ , is used to change the threshold under this method.

However, the above method does not include the preventing the finger assignment from being **deassigned if said signal-strength of said finger assignment satiates a second threshold, said second signal-strength threshold being less than said first signal-strength threshold** as is specifically recited in claims 1, 19 and 37.

For at least the reasons set forth above, Applicants respectfully submit that a prima facie case of obviousness has not been established. Thus, claims 1, 19 and 37 are patentable over the applied art. Moreover, the claims that depend from these claims are patentable at least because of their dependence thereon.

Applicants do not concede that the combination of reference is proper. However, because Applicants based their traversal of the rejection for at least the reasons stated above, there is no need at this juncture to address the propriety of the combination of references. Applicants reserve their right to raise substantive arguments in support of the patentability of claims of these dependent claims in future replies, if necessary.

2. Claims 9, 15 and 19-54 are rejected over *Daudelin* in view of other secondary references. Claims 19 and 37 are patentable over the applied art at least for the reasons provided above. All other claims depend from claims 1, 19 and 37. Applicants respectfully submit that these claims are patentable over the applied art at least because of their dependence on claims 1, 19 and 37. Applicants reserve their right to raise substantive arguments in support of the patentability of claims of these dependent claims in future replies, if necessary.

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### **III. Conclusion**

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

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Respectfully submitted,  
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